WASHTENAW COMMUNITY COLLEGE

MASTER SYLLABUS

Course Discipline Code & No: HVA 131 **Title:** Air Handling, Water Treatment, and Plumbing Systems **Effective Term** W09

Division Code: VCT **Department Code:** WAF/HVAC **Org #:** 14750

Don't publish: ☒College Catalog ☒Time Schedule ☒Web Page

Reason for Submission. Check all that apply.

- ☒New course approval
- ☐Three-year syllabus review/Assessment report
- ☐Course change
- ☐Reactivation of inactive course
- ☐Inactivation (Submit this page only.)

Change information: Note all changes that are being made. Form applies only to changes noted.

- ☐Consultation with all departments affected by this course is required.
- ☒Course discipline code & number (was CON 075)*
  *Must submit inactivation form for previous course.
- ☐Course title (was _____)
- ☐Course description
- ☐Course objectives (minor changes)
- ☐Credit hours (credits were: ___)
- ☐Total Contact Hours (total contact hours were: _____)
- ☐Distribution of contact hours (contact hours were: lecture: _____ lab _____ clinical _____ other ____)
- ☐Pre-requisite, co-requisite, or enrollment restrictions
- ☐Change in Grading Method
- ☐Outcomes/Assessment
- ☐Objectives/Evaluation
- ☐Other _____

Rationale for course or course change. Attach course assessment report for existing courses that are being changed.

This course is part of the BOMI series used by the University of Michigan Facilities Maintenance department to benchmark skills for their workforce.

Approvals Department and divisional signatures indicate that all departments affected by the course have been consulted.

Department Review by Chairperson ☐ New resources needed ☒ All relevant departments consulted

Print: Les Pullins Faculty/Preparer Signature Leslie R Pullins Date: 12/4/08

Print: William Figg Department Chair Signature William H. Figg Date: 12-10-08

Division Review by Dean

☒ Request for conditional approval

Recommendation ☒ Yes ☐ No _____ Dean's/Administrator's Signature 12-11-08 Date

Curriculum Committee Review

Recommendation _____

☐ Tabled ☒ Yes ☐ No Lisa Veasey Curriculum Committee Chair's Signature 1/15/09 Date

Vice President for Instruction Approval

R.M.H. 1/23/09 Roger M. Rabaey Vice President's Signature 12/17/08 Date

Approval ☒ Yes ☐ No ☒ Conditional

20080 Do not write in shaded area.

Log File 12/17/0835 Ecopy ☐ Banner 12/17 C&A Database 12/17 C&A Log File 12/17 1/27/09 Basic skills ☐ Contact fee ☐

Please return completed form to the Office of Curriculum & Assessment and email an electronic copy to sjohn@wccnet.edu for posting on the *website.*

***Complete ALL sections which apply to the course, even if changes are not being made.**

Course:	**Course title:**
HVA 131	Air Handling, Water Treatment and Plumbing Systems

Credit hours: 2

If variable credit, give range:

_____ to _____ credits

Contact hours per semester:

	Student	Instructor
Lecture:	30	30
Lab:		
Clinical:		
Practicum:		
Other:		
Totals:	30	30

Are lectures, labs, or clinicals offered as separate sections?

☐ Yes - lectures, labs, or clinicals are offered in separate sections

☒ No - lectures, labs, or clinicals are offered in the same section

Grading options:

☐ P/NP (limited to clinical & practica)

☐ S/U (for courses numbered below 100)

☒ Letter grades

Prerequisites. Select one:

☒ College-level Reading & Writing ☐ Reduced Reading/Writing Scores (Add information at Level I prerequisite) ☐ No Basic Skills Prerequisite (College-level Reading and Writing is not required.)

In addition to Basic Skills in Reading/Writing:

Level I (enforced in Banner)

	Course	Grade	Test	Min. Score	Concurrent Enrollment (Can be taken together)	Corequisites (Must be enrolled in this class also during the same semester)
					☐	
☐ and ☐ or					☐	
☐ and ☐ or					☐	
☐ and ☐ or					☐	

Level II (enforced by instructor on first day of class)

	Course	Grade	Test	Min. Score
☐ and ☐ or				
☐ and ☐ or				

Enrollment restrictions (In addition to prerequisites, if applicable.)

☐ and ☐ or Consent required ☐ and ☐ or Admission to program required Program: _____ ☐ and ☐ or Other (please specify): _____

Please send syllabus for transfer evaluation to:

Conditionally approved courses are not sent for evaluation.

Insert course number and title you wish the course to transfer as.

☐ E.M.U. as _____

☐ U of M as _____

☐ _____ as _____

☐ _____ as _____

☐ _____ as _____

☐ _____ as _____

Course	Course title
HVA 131	Air Handling, Water Treatment and Plumbing Systems

Course description State the purpose and content of the course. Please limit to 500 characters.	In this course, students will learn about climate control for human comfort, the components of HVAC systems, and the basics of water treatment and plumbing systems. Students will gain the skills and knowledge to perform common water tests, maintain air-conditioning systems, maintain water services and discuss fire protection.	
Course outcomes List skills and knowledge students will have after taking the course. **Assessment method** Indicate how student achievement in each outcome will be assessed to determine student achievement for purposes of course improvement.	**Outcomes** (applicable in all sections)	**Assessment** Methods for determining course effectiveness
	1. Identify properties necessary to maintain human comfort and health.	BOMI Institute Multiple-Choice Test
	2. Identify several types of air distribution systems and equipment.	BOMI Institute Multiple-Choice Test
	3. Indentify water distribution systems, water purity treatment, and fire protection systems.	BOMI Institute Multiple-Choice Test
Course Objectives Indicate the objectives that support the course outcomes given above. **Course Evaluations** Indicate how instructors will determine the degree to which each objective is met for each student.	**Objectives** (applicable in all sections)	**Evaluation** Methods for determining level of student performance of objectives
	For outcome 1	**For outcome 1**
	Identify ways that a building's environment affects the comfort of its occupants.	Responses to multiple choice items
	Identify different types of filters that are used to remove solid and liquid particles.	
	Identify methods used to remove gasses, vapors and bacteria from building air.	
	For outcome 2	**For outcome 2**
	Identify three types of ductwork and the materials used in their construction.	Responses to multiple choice items
	Identify ways to reduce noise produced by HVAC equipment.	
	Identify ways that building pressurization is controlled.	
	For outcome 3	**For outcome 3**
	Identify ways water is used in heating systems.	Responses to multiple choice items
	Identify common microbiological contaminants, the problems they cause in water systems, and typical treatment options.	
	Identify different systems for the distribution of potable, and removal of sanitation waste water.	
	Identify different types of sprinkler systems and how they are maintained.	

List all new resources needed for course, including library materials.

Student Materials:

List examples of types		Estimated costs
Texts Supplemental reading Supplies Uniforms Equipment Tools Software	Air Handling, Water Treatment, and Plumbing Systems	$ 200.00

Equipment/Facilities: Check all that apply. (All classrooms have overhead projectors and permanent screens.)

Check level only if the specified equipment is needed for all sections of a course.

☐ Level I classroom
Permanent screen & overhead projector

☐ Level II classroom
Level I equipment plus TV/VCR

☐ Level III classroom
Level II equipment plus data projector, computer, faculty workstation

☒ Off-Campus Sites
☐ Testing Center
☐ Computer workstations/lab
☐ ITV
☐ TV/VCR
☐ Data projector/computer
☐ Other _____

Assessment plan:

Learning outcomes to be assessed (list from Page 3)	Assessment tool	When assessment will take place (semester & year)	Course section(s)/other population	Number students to be assessed
1. Identify properties necessary to maintain human comfort and health.	BOMI Institute Multiple-Choice Test	Winter 2011 and every 3 years thereafter.	All sections	All students completing the course
2. Identify several types of air distribution systems and equipment.	BOMI Institute Multiple-Choice Test	Winter 2011 and every 3 years thereafter.	All sections	All students completing the course
3. Indentify water distribution systems, water purity treatment, and fire protection systems	BOMI Institute Multiple-Choice Test	Winter 2011 and every 3 years thereafter.	All sections	All students completing the course

Scoring and analysis of assessment:

1. Indicate how the above assessment(s) will be scored and evaluated (e.g. departmentally developed rubric, external evaluation, other). Attach the rubric.

   The BOMI Institute will score the test and report results to the class coordinator.

2. Indicate the standard of success to be used for this assessment.

   70% of students will achieve a score of 70% or higher on outcome questions.

3. Indicate who will score and analyze the data.

   The BOMI institute will score the test, full time instructors of the HVAC department will analyze the data returned to them by the BOMI Institute.

4. Explain the process for using assessment data to improve the course.

   The faculty teaching this course will review the results for strengths and weaknesses. Ideas will be generated to address points of weakness.